

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for creating a keyword string database on a wireless user device, the method comprising:
determining one or more candidate keyword strings to store in the said database;
for each of the said one or more candidate keyword strings, creating a single bit vector based at least in part on the said each of the said one or more candidate keyword strings, the said bit vector for use in comparing an input bit vector with the said bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings, the said input keyword string provided by a user of the said wireless user device; and
storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.
2. (Currently Amended) The method of claim 1 wherein the said bit vector further comprises at least one bit that represents a non-alphanumeric symbol.
3. (Currently Amended) The method of claim 2 wherein the said non-alphanumeric symbol indicates an email address.
4. (Currently Amended) The method of claim 2 wherein the said non-alphanumeric symbol indicates a mobile number.

5. (Currently Amended) The method of claim 2 wherein the ~~said~~ non-alphanumeric symbol indicates a wired number.
6. (Currently Amended) The method of claim 2 wherein the ~~said~~ non-alphanumeric symbol indicates a paper-mail address.
7. (Currently Amended) The method of claim 2 wherein the ~~said~~ non-alphanumeric symbol indicates a cost ranking.
8. (Currently Amended) The method of claim 2 wherein the ~~said~~ non-alphanumeric symbol indicates a quality ranking.
9. (Currently Amended) The method of claim 2 wherein the ~~said~~ non-alphanumeric symbol indicates a cuisine.

10-12 (Cancelled)

13. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:
receiving from a user of the ~~said~~ wireless user device an input keyword string comprising one or more words comprising one or more symbols;
creating a single bit vector based at least in part on the ~~said~~ input keyword string;
comparing the ~~said~~ bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and presenting any matching candidate keyword strings.

14. (Currently Amended) The method of claim 13, further comprising preempting the said method after a predetermined amount of time.
15. (Currently Amended) The method of claim 14 wherein the said predetermined amount of time is two seconds.
16. (Currently Amended) The method of claim 13 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.
17. (Currently Amended) A method for creating a keyword string database on a wireless user device, the method comprising:
determining one or more candidate keyword strings to store in the said database;
for each of the said one or more candidate keyword strings, creating a single bit vector based at least in part on the said each of the said one or more candidate keyword strings, the said bit vector having a bit position for each symbol in an alphabet and having bits set for bit positions corresponding to at least one symbol representing the first symbol of a word in the said each of the said one or more candidate keyword strings, the said bit vectors for use in comparing an input bit vector with the said bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and

storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.

18-20 (Cancelled)

21. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:
- receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;
 - creating a single bit vector based at least in part on the said input keyword string, the said bit vector having a bit position for each symbol in an alphabet and having bits set for positions corresponding to at least one symbol representing the first symbol of a word in the said input keyword string;
 - comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;
 - applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and
 - presenting any matching candidate keyword strings.
22. (Currently Amended) The method of claim 21, further comprising preempting the said method after a predetermined amount of time.
23. (Currently Amended) The method of claim 22 wherein the said predetermined amount of time is two seconds.

24. (Currently Amended) The method of claim 21 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.
25. (Currently Amended) A method for comparing keyword strings on a wireless user device, the method comprising:
- determining a relative frequency of use for at least one symbol in a language;
 - assigning a statistical weighting to the said at least one symbol based at least in part on a relative frequency of use of the said at least one symbol;
 - assigning each of the said at least one symbol to one of a plurality of groups;
 - comparing a first keyword string and a second keyword string based at least in part on whether at least one symbol of the said first keyword string is assigned to the same group as at least one corresponding symbol of the said second keyword string; and
 - presenting a result of the said comparing to a user of the said wireless user device.
26. (Currently Amended) The method of claim 25 wherein the said assigning further comprises assigning each of the said at least one symbol to one of a plurality of groups so as to minimize the difference between the sums of statistical weightings for symbols comprising each group in the said plurality of groups.
27. (Currently Amended) The method of claim 25 wherein the said relative frequency of use comprises the relative frequency of use of symbols in the first character of words in the said language.
28. (Currently Amended) A method for creating a keyword string database on a wireless user device, the method comprising:

determining one or more candidate keyword strings to store in the said database;
creating one or more bit vectors based at least in part on the said one or more candidate keyword strings, each bit of the said one or more bit vectors corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to the first symbol of a word in the said one or more candidate keyword strings being set, the said one or more bit vectors for use in comparing an input bit vector with the said one or more bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and
storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.

29-31 (Cancelled)

32. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:
receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string;
creating a single bit vector based at least in part on the said input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to the said one or more symbols being set;
comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;
applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and

presenting any matching candidate keyword strings.

33. (Currently Amended) The method of claim 32, further comprising preempting the said method after a predetermined amount of time.
34. (Currently Amended) The method of claim 33 wherein the said predetermined amount of time is two seconds.
35. (Currently Amended) The method of claim 32 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.
36. (Currently Amended) A method for creating a keyword string database on a wireless user device, the method comprising:
determining one or more candidate keyword strings to store in the said database;
creating one or more bit vectors based at least in part on the said one or more candidate keyword strings, each bit of the said one or bit vector corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to a symbol of a prefix of a word in the said one or more candidate keyword strings being set, the said one or more bit vectors for use in comparing an input bit vector with the said one or more bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and
storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.

37-39. (Cancelled)

40. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:

receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;

creating a single bit vector based at least in part on the said input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to a prefix of a word in the said one or more symbols being set;

comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and

presenting any matching candidate keyword strings.

41. (Currently Amended) The method of claim 40, further comprising preempting the said method after a predetermined amount of time.

42. (Currently Amended) The method of claim 41 wherein the said predetermined amount of time is two seconds.

43. (Currently Amended) The method of claim 40 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.

44. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:

receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string;

receiving a hierarchy, elements of the said hierarchy comprising intermediate nodes and leaf nodes representing one or more keyword strings comprising one or more words comprising one or more symbols;

creating hierarchy bit vectors corresponding to the said one or more keyword strings in the said hierarchy;

searching the said hierarchy bit vectors for a match with the said input keyword string, the said searching comprising, for each of the said elements of the said hierarchy:

saving the said input keyword string;

applying a logical “AND” operation to the bit vector of the element and a bit vector based at least in part on the said input keyword string, the said applying producing a result;

if the said result is nonzero, removing from the said input keyword string any words in the said input keyword string that are prefixes of words in the element;

if the said input keyword string is empty, adding the said element to a list of matched items;

and

restoring the said input keyword string; and

rendering the said list of matched items.

45. (Currently Amended) A method for creating a keyword string database on a wireless user device, the method comprising:

step for determining one or more candidate keyword strings to store in the said database;

step for, for each of the said one or more candidate keyword strings, creating a single bit vector based at least in part on the said each of the said one or more candidate keyword

strings, ~~the said~~ bit vector for use in comparing an input bit vector with ~~the said~~ bit vector to indicate whether an input keyword string represented by ~~the said~~ input bit vector matches ~~the said~~ one or more candidate keyword strings, ~~the said~~ input keyword string provided by a user of ~~the said~~ wireless user device; and
step for storing ~~the said~~ one or more bit vectors and a reference to ~~the said~~ one or more candidate keyword strings in ~~the said~~ database.

46. (Currently Amended) The method of claim 45 wherein ~~the said~~ bit vector further comprises at least one bit that represents a non-alphanumeric symbol.

47. (Currently Amended) The method of claim 46 wherein ~~the said~~ non-alphanumeric symbol indicates an email address.

48. (Currently Amended) The method of claim 46 wherein ~~the said~~ non-alphanumeric symbol indicates a mobile number.

49. (Currently Amended) The method of claim 46 wherein ~~the said~~ non-alphanumeric symbol indicates a wired number.

50. (Currently Amended) The method of claim 46 wherein ~~the said~~ non-alphanumeric symbol indicates a paper-mail address.

51. (Currently Amended) The method of claim 46 wherein ~~the said~~ non-alphanumeric symbol indicates a cost ranking.

52. (Currently Amended) The method of claim 46 wherein the said non-alphanumeric symbol indicates a quality ranking.
53. (Currently Amended) The method of claim 46 wherein the said non-alphanumeric symbol indicates a cuisine.
- 54-56 (Cancelled)
57. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:
- step for receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;
 - step for creating a single bit vector based at least in part on the said input keyword string;
 - step for comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;
 - step for applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and
 - step for presenting any matching candidate keyword strings.
58. (Currently Amended) The method of claim 57, further comprising step for preempting the said method after a predetermined amount of time.
59. (Currently Amended) The method of claim 58 wherein the said predetermined amount of time is two seconds.

60. (Currently Amended) The method of claim 57 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.

61. (Currently Amended) A method for creating a keyword string database on a wireless user device, the method comprising:

step for determining one or more candidate keyword strings to store in the said database;

step for, for each of the said one or more candidate keyword strings, creating a single bit

vector based at least in part on the said each of the said one or more candidate keyword

strings, the said bit vector having a bit position for each symbol in an alphabet and

having bits set for bit positions corresponding to at least one symbol representing the

first symbol of a word in the said each of the said one or more candidate keyword

strings, the said bit vectors for use in comparing an input bit vector with the said bit

vectors to indicate whether an input keyword string represented by the said input bit

vector matches the said one or more candidate keyword strings; and

step for storing the said one or more bit vectors and a reference to the said one or more

candidate keyword strings in the said database.

62-64. (Cancelled)

65. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:

step for receiving from a user of the said wireless user device an input keyword string

comprising one or more words comprising one or more symbols;

step for creating a single bit vector based at least in part on the said input keyword string, the

said bit vector having a bit position for each symbol in an alphabet and having bits set

for positions corresponding to at least one symbol representing the first symbol of a word in the said input keyword string;

step for comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

step for applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and

step for presenting any matching candidate keyword strings.

66. (Currently Amended) The method of claim 65, further comprising step for preempting the said method after a predetermined amount of time.

67. (Currently Amended) The method of claim 66 wherein the said predetermined amount of time is two seconds.

68. (Currently Amended) The method of claim 65 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.

69. (Currently Amended) A method for comparing keyword strings on a wireless user device, the method comprising:

step for determining a relative frequency of use for at least one symbol in a language;

step for assigning a statistical weighting to the said at least one symbol based at least in part on a relative frequency of use of the said at least one symbol;

step for assigning each of the said at least one symbol to one of a plurality of groups; and

step for comparing a first keyword string and a second keyword string based at least in part on whether at least one symbol of ~~the said~~ first keyword string is assigned to the same group as at least one corresponding symbol of ~~the said~~ second keyword string; and step for presenting a result of ~~the said~~ comparing to a user of ~~the said~~ wireless user device.

70. (Currently Amended) The method of claim 69 wherein ~~the said~~ step for assigning further comprises step for assigning each of ~~the said~~ at least one symbol to one of a plurality of groups so as to minimize the difference between the sums of statistical weightings for symbols comprising each group in ~~the said~~ plurality of groups.

71. (Currently Amended) The method of claim 69 wherein ~~the said~~ relative frequency of use comprises the relative frequency of use of symbols in the first character of words in ~~the said~~ language.

72. (Currently Amended) A method for creating a keyword string database on a wireless user device, the method comprising:
step for determining one or more candidate keyword strings to store in ~~the said~~ database;
step for creating one or more bit vectors based at least in part on ~~the said~~ one or more candidate keyword strings, each bit of ~~the said~~ one or more bit vectors corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to the first symbol of a word in ~~the said~~ one or more candidate keyword strings being set, ~~the said~~ one or more bit vectors for use in comparing an input bit vector with ~~the said~~ one or more bit vectors to indicate whether an input keyword string represented by ~~the said~~ input bit vector matches ~~the said~~ one or more candidate keyword strings; and

step for storing ~~the said~~ one or more bit vectors and a reference to ~~the said~~ one or more candidate keyword strings in ~~the said~~ database.

73-75 (Cancelled)

76. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:

step for receiving from a user of ~~the said~~ wireless user device an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string;

step for creating a single bit vector based at least in part on ~~the said~~ input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to ~~the said~~ one or more symbols being set;

step for comparing ~~the said~~ bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

step for applying a conventional keyword matching algorithm to ~~the said~~ at least one candidate keyword string represented by ~~the said~~ set of matching bit vectors; and
step for presenting any matching candidate keyword strings.

77. (Currently Amended) The method of claim 76, further comprising step for preempting ~~the said~~ method after a predetermined amount of time.

78. (Currently Amended) The method of claim 77 wherein ~~the said~~ predetermined amount of time is two seconds.

79. (Currently Amended) The method of claim 76 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.

80. (Currently Amended) A method for creating a keyword string database on a wireless user device, the method comprising:
step for determining one or more candidate keyword strings to store in the said database;
step for creating one or more bit vectors based at least in part on the said one or more candidate keyword strings, each bit of the said one or bit vector corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to a symbol of a prefix of a word in the said one or more candidate keyword strings being set, the said one or more bit vectors for use in comparing an input bit vector with the said one or more bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and
step for storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.

81-83. (Cancelled)

84. (Currently Amended) A method for incremental keyword search on a wireless user device, the method comprising:
step for receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;

step for creating a single bit vector based at least in part on the said input keyword string,
each bit corresponding to one or more symbols in an alphabet, bits having a bit position
corresponding to a prefix of a word in the said one or more symbols being set;
step for comparing the said bit vector with one or more other bit vectors representing at least
one candidate keyword string to create a set of matching bit vectors;
step for applying a conventional keyword matching algorithm to the said at least one
candidate keyword string represented by the said set of matching bit vectors; and
step for presenting any matching candidate keyword strings.

85. (Currently Amended) The method of claim 84, further comprising step for preempting said
method after a predetermined amount of time.

86. (Currently Amended) The method of claim 85 wherein the said predetermined amount of
time is two seconds.

87. (Currently Amended) The method of claim 84 wherein the said comparing is independent of
the order of keyword prefixes in keyword strings.

88. (Currently Amended) A method for incremental keyword search on a wireless user device,
the method comprising:

step for receiving from a user of the said wireless user device an input keyword string
comprising one or more words comprising one or more symbols, each symbol
representing the first symbol of a word in a search string;

step for receiving a hierarchy, elements of the-said hierarchy comprising intermediate nodes and leaf nodes representing one or more keyword strings comprising one or more words comprising one or more symbols;

step for creating hierarchy bit vectors corresponding to the-said one or more keyword strings in the-said hierarchy;

step for searching the-said hierarchy bit vectors for a match with the-said input keyword string, the-said step for searching comprising, for each of the-said elements of the-said hierarchy;

step for saving the-said input keyword string;

step for applying a logical “AND” operation to the bit vector of the element and a bit vector based at least in part on the-said input keyword string, the-said applying producing a result;

step for if the-said result is nonzero, removing from the-said input keyword string any words in the-said input keyword string that are prefixes of words in the element;

step for if the-said input keyword string is empty, adding the-said element to a list of matched items; and

step for restoring the-said input keyword string; and

step for rendering the-said list of matched items.

89. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for creating a keyword string database on a wireless user device, the method comprising:
- determining one or more candidate keyword strings to store in the-said database;
- for each of the-said one or more candidate keyword strings, creating a single bit vector based at least in part on the-said each of the-said one or more candidate keyword strings, the

said bit vectors for use in comparing an input bit vector with the said bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings, the said input keyword string provided by a user of the said wireless user device; and storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.

90. (Currently Amended) The program storage device of claim 89 wherein the said bit vector further comprises at least one bit that represents a non-alphanumeric symbol.
91. (Currently Amended) The program storage device of claim 90 wherein the said non-alphanumeric symbol indicates an email address.
92. (Currently Amended) The program storage device of claim 90 wherein the said non-alphanumeric symbol indicates a mobile number.
93. (Currently Amended) The program storage device of claim 90 wherein the said non-alphanumeric symbol indicates a wired number.
94. (Currently Amended) The program storage device of claim 90 wherein the said non-alphanumeric symbol indicates a paper-mail address.
95. (Currently Amended) The program storage device of claim 90 wherein the said non-alphanumeric symbol indicates a cost ranking.

96. (Currently Amended) The program storage device of claim 90 wherein the said non-alphanumeric symbol indicates a quality ranking.

97. (Currently Amended) The program storage device of claim 90 wherein the said non-alphanumeric symbol indicates a cuisine.

98-100 (Cancelled)

101. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for incremental keyword search on a wireless user device, the method comprising:

receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;

creating a single bit vector based at least in part on the said input keyword string;

comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and

presenting any matching candidate keyword strings.

102. (Currently Amended) The program storage device of claim 101 wherein the said method further comprises preempting the said method after a predetermined amount of time.

103. (Currently Amended) The program storage device of claim 102 wherein the said predetermined amount of time is two seconds.

104. (Currently Amended) The program storage device of claim 101 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.
105. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for creating a keyword string database on a wireless user device, the method comprising:
determining one or more candidate keyword strings to store in the said database;
for each of the said one or more candidate keyword strings, creating a single bit vector based at least in part on the said each of the said one or more candidate keyword strings, the said bit vector having a bit position for each symbol in an alphabet and having bits set for bit positions corresponding to at least one symbol representing the first symbol of a word in the said each of the said one or more candidate keyword strings, the said bit vectors for use in comparing an input bit vector with the said bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and
storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.
106. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for incremental keyword search on a wireless user device, the method comprising:
submitting to the said wireless user device an input keyword string comprising one or more words comprising one or more symbols; and

receiving in response to the said submitting at least one candidate keyword string where the first symbol of at least one word in each of the said at least one candidate keyword string matches the first symbol of the corresponding word in the said input keyword string.

107. (Currently Amended) The program storage device of claim 106 wherein the said method further comprises preempting the said method after a predetermined amount of time.

108. (Currently Amended) The program storage device of claim 107 wherein the said predetermined amount of time is two seconds.

109. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for incremental keyword search on a wireless user device, the method comprising:

receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;

creating a single bit vector based at least in part on the said input keyword string, said bit vector having a bit position for each symbol in an alphabet and having bits set for positions corresponding to at least one symbol representing the first symbol of a word in the said input keyword string;

comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and

presenting any matching candidate keyword strings.

110. (Currently Amended) The program storage device of claim 109 wherein the said method further comprises preempting the said method after a predetermined amount of time.
111. (Currently Amended) The program storage device of claim 110 wherein the said predetermined amount of time is two seconds.
112. (Currently Amended) The program storage device of claim 109 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.
113. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for comparing keyword strings on a wireless user device, the method comprising:
determining a relative frequency of use for at least one symbol in a language;
assigning a statistical weighting to the said at least one symbol based at least in part on a relative frequency of use of the said at least one symbol;
assigning each of the said at least one symbol to one of a plurality of groups; and
comparing a first keyword string and a second keyword string based at least in part on whether at least one symbol of the said first keyword string is assigned to the same group as at least one corresponding symbol of the said second keyword string.
114. (Currently Amended) The program storage device of claim 113 wherein the said assigning further comprises assigning each of the said at least one symbol to one of a plurality of groups so as to minimize the difference between the sums of statistical weightings for symbols comprising each group in the said plurality of groups.

115. (Currently Amended) The program storage device of claim 113 wherein ~~the said~~ relative frequency of use comprises the relative frequency of use of symbols in the first character of words in ~~the said~~ language.

116. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for creating a keyword string database on a wireless user device, the method comprising:
determining one or more candidate keyword strings to store in ~~the said~~ database;
creating one or more bit vectors based at least in part on ~~the said~~ one or more candidate keyword strings, each bit of ~~the said~~ one or more bit vectors corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to the first symbol of a word in ~~the said~~ one or more candidate keyword strings being set, ~~the said~~ one or more bit vectors for use in comparing an input bit vector with ~~the said~~ one or more bit vectors to indicate whether an input keyword string represented by ~~the said~~ input bit vector matches ~~the said~~ one or more candidate keyword strings; and
storing ~~the said~~ one or more bit vectors and a reference to ~~the said~~ one or more candidate keyword strings in ~~the said~~ database.

117-119 (Cancelled)

120. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for incremental keyword search on a wireless user device, the method comprising:

receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string;

creating a single bit vector based at least in part on the said input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to the said one or more symbols being set;

comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and

presenting any matching candidate keyword strings.

121. (Currently Amended) The program storage device of claim 120 wherein the said method further comprises preempting the said method after a predetermined amount of time.
122. (Currently Amended) The program storage device of claim 121 wherein the said predetermined amount of time is two seconds.
123. (Currently Amended) The program storage device of claim 120 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.
124. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for creating a keyword string database on a wireless user device, the method comprising:
- determining one or more candidate keyword strings to store in the said database;

creating one or more bit vectors based at least in part on the said one or more candidate keyword strings, each bit of the said one or bit vector corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to a symbol of a prefix of a word in the said one or more candidate keyword strings being set, the said one or more bit vectors for use in comparing an input bit vector with the said one or more bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.

125. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for incremental keyword search on a wireless user device, the method comprising:
- submitting an input keyword string comprising one or more words comprising one or more symbols; and
- receiving in response to the said submitting at least one candidate keyword string where a prefix of a word of a matching candidate keyword string comprises at least one symbol that belongs to the same symbol group as the corresponding symbol of the corresponding word in the said input keyword string.
126. (Currently Amended) The program storage device of claim 125 wherein the said method further comprises preempting the said method after a predetermined amount of time.
127. (Currently Amended) The program storage device of claim 126 wherein the said predetermined amount of time is two seconds.

128. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for incremental keyword search on a wireless user device, the method comprising:
- receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;
 - creating a single bit vector based at least in part on the said input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to a prefix of a word in the said one or more symbols being set;
 - comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;
 - applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and
 - presenting any matching candidate keyword strings.
129. (Currently Amended) The program storage device of claim 128 wherein the said method further comprises preempting the said method after a predetermined amount of time.
130. (Currently Amended) The program storage device of claim 129 wherein the said predetermined amount of time is two seconds.
131. (Currently Amended) The program storage device of claim 128 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.

132. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for incremental keyword search on a wireless user device, the method comprising:
- receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string;
 - receiving a hierarchy, elements of the said hierarchy comprising intermediate nodes and leaf nodes representing one or more keyword strings comprising one or more words comprising one or more symbols;
 - creating hierarchy bit vectors corresponding to the said one or more keyword strings in the said hierarchy;
 - searching the said hierarchy bit vectors for a match with the said input keyword string, the said searching comprising, for each of the said elements of the said hierarchy:
 - saving the said input keyword string;
 - applying a logical “AND” operation to the bit vector of the element and a bit vector based at least in part on the said input keyword string, the said applying producing a result;
 - if the said result is nonzero, removing from the said input keyword string any words in the said input keyword string that are prefixes of words in the element;
 - if the said input keyword string is empty, adding the said element to a list of matched items;
 - and
 - restoring the said input keyword string; and
 - rendering the said list of matched items.

133. (Currently Amended) An apparatus for creating a keyword string database on a wireless user device, the apparatus comprising:

means for determining one or more candidate keyword strings to store in the-said database; means for, for each of the-said one or more candidate keyword strings, creating a single bit vector based at least in part on the-said each of the-said one or more candidate keyword strings, the-said bit vectors for use in comparing an input bit vector with the-said bit vectors to indicate whether an input keyword string represented by the-said input bit vector matches the-said one or more candidate keyword strings, the-said input keyword string provided by a user of the-said wireless user device; and means for storing the-said one or more bit vectors and a reference to the-said one or more candidate keyword strings in the-said database.

134. (Currently Amended) The apparatus of claim 133 wherein the-said bit vector further comprises at least one bit that represents a non-alphanumeric symbol.
135. (Currently Amended) The apparatus of claim 134 wherein the-said non-alphanumeric symbol indicates an email address.
136. (Currently Amended) The apparatus of claim 134 wherein the-said non-alphanumeric symbol indicates a mobile number.
137. (Currently Amended) The apparatus of claim 134 wherein the-said non-alphanumeric symbol indicates a wired number.
138. (Currently Amended) The apparatus of claim 134 wherein the-said non-alphanumeric symbol indicates a paper-mail address.

139. (Currently Amended) The apparatus of claim 134 wherein the said non-alphanumeric symbol indicates a cost ranking.
140. (Currently Amended) The apparatus of claim 134 wherein the said non-alphanumeric symbol indicates a quality ranking.
141. (Currently Amended) The apparatus of claim 134 wherein the said non-alphanumeric symbol indicates a cuisine.
142. (Currently Amended) An apparatus for incremental keyword search on a wireless user device, the apparatus comprising:
- means for receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;
 - means for creating a single bit vector based at least in part on the said input keyword string;
 - means for comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;
 - means for applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and
 - means for presenting any matching candidate keyword strings.
143. (Currently Amended) The apparatus of claim 142, further comprising means for preempting the said receiving, the said creating, the said comparing, the said applying and the said presenting after a predetermined amount of time.

144. (Currently Amended) The apparatus of claim 143 wherein the said predetermined amount of time is two seconds.
145. (Currently Amended) The apparatus of claim 142 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.
146. (Currently Amended) An apparatus for creating a keyword string database on a wireless user device, the apparatus comprising:
means for determining one or more candidate keyword strings to store in the said database;
means for, for each of the said one or more candidate keyword strings, creating a single bit vector based at least in part on the said each of the said one or more candidate keyword strings, the said bit vector having a bit position for each symbol in an alphabet and having bits set for bit positions corresponding to at least one symbol representing the first symbol of a word in the said each of the said one or more candidate keyword strings, the said bit vectors for use in comparing an input bit vector with the said bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and
means for storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.
147. (Currently Amended) An apparatus for incremental keyword search on a resource-constrained device, the apparatus comprising:
means for receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;

means for creating a single bit vector based at least in part on the-said input keyword string, the-said bit vector having a bit position for each symbol in an alphabet and having bits set for positions corresponding to at least one symbol representing the first symbol of a word in the-said input keyword string;

means for comparing the-said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

means for applying a conventional keyword matching algorithm to the-said at least one candidate keyword string represented by the-said set of matching bit vectors; and

means for presenting any matching candidate keyword strings.

148. (Currently Amended) The apparatus of claim 147, further comprising means for preempting the-said receiving, the-said creating, the-said comparing, the-said applying and the-said presenting after a predetermined amount of time.

149. (Currently Amended) The apparatus of claim 148 wherein the-said predetermined amount of time is two seconds.

150. (Currently Amended) The apparatus of claim 147 wherein the-said comparing is independent of the order of keyword prefixes in keyword strings.

151. (Currently Amended) An apparatus for comparing keyword strings on a wireless user device, the apparatus comprising:

means for determining a relative frequency of use for at least one symbol in a language;

means for assigning a statistical weighting to the-said at least one symbol based at least in part on a relative frequency of use of the-said at least one symbol;

means for assigning each of ~~the said~~ at least one symbol to one of a plurality of groups; and
means for comparing a first keyword string and a second keyword string based at least in
part on whether at least one symbol of ~~the said~~ first keyword string is assigned to the
same group as at least one corresponding symbol of ~~the said~~ second keyword string.

152. (Currently Amended) The apparatus of claim 151 wherein ~~the said~~ means for assigning
further comprises means for assigning each of ~~the said~~ at least one symbol to one of a
plurality of groups so as to minimize the difference between the sums of statistical
weightings for symbols comprising each group in ~~the said~~ plurality of groups.

153. (Currently Amended) The apparatus of claim 151 wherein ~~the said~~ relative frequency of
use comprises the relative frequency of use of symbols in the first character of words in ~~the
said~~ language.

154. (Currently Amended) An apparatus for creating a keyword string database on a wireless
user device, the apparatus comprising:
means for determining one or more candidate keyword strings to store in said database;
means for creating one or more bit vectors based at least in part on said one or more
candidate keyword strings, each bit of ~~the said~~ one or more bit vectors corresponding to
one or more symbols in an alphabet, bits having a bit position corresponding to the first
symbol of a word in ~~the said~~ one or more candidate keyword strings being set, ~~the said~~
one or more bit vectors for use in comparing an input bit vector with ~~the said~~ one or
more bit vectors to indicate whether an input keyword string represented by ~~the said~~
input bit vector matches ~~the said~~ one or more candidate keyword strings; and

means for storing ~~the said~~ one or more bit vectors and a reference to ~~the said~~ one or more candidate keyword strings in ~~the said~~ database.

155. (Currently Amended) An apparatus for incremental keyword search on a wireless user device, the apparatus comprising:

means for receiving from a user of ~~the said~~ wireless user device an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string;

means for creating a single bit vector based at least in part on ~~the said~~ input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to ~~the said~~ one or more symbols being set;

means for comparing ~~the said~~ bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

means for applying a conventional keyword matching algorithm to ~~the said~~ at least one candidate keyword string represented by ~~the said~~ set of matching bit vectors; and

means for presenting any matching candidate keyword strings.

156. (Currently Amended) The apparatus of claim 155, further comprising means for preempting ~~the said~~ receiving, ~~the said~~ creating, ~~the said~~ comparing, ~~the said~~ applying and ~~said~~ presenting after a predetermined amount of time.

157. (Currently Amended) The apparatus of claim 156 wherein ~~said~~ predetermined amount of time is two seconds.

158. (Currently Amended) The apparatus of claim 155 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.
159. (Currently Amended) An apparatus for creating a keyword string database on a wireless user device, the apparatus comprising:
means for determining one or more candidate keyword strings to store in the said database;
means for creating one or more bit vectors based at least in part on the said one or more candidate keyword strings, each bit of the said one or bit vector corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to a symbol of a prefix of a word in the said one or more candidate keyword strings being set, the said one or more bit vectors for use in comparing an input bit vector with the said one or more bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and
means for storing the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.
160. (Currently Amended) An apparatus for incremental keyword search on a wireless user device, the apparatus comprising:
means for receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols;
means for creating a bit vector based at least in part on the said input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to a prefix of a word in the said one or more symbols being set;
means for comparing the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors;

means for applying a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors; and means for presenting any matching candidate keyword strings.

161. (Currently Amended) The apparatus of claim 160, further comprising means for preempting the said the said receiving, the said creating, the said comparing, the said applying and the said presenting after a predetermined amount of time.

162. (Currently Amended) The apparatus of claim 161 wherein the said predetermined amount of time is two seconds.

163. (Currently Amended) The apparatus of claim 160 wherein the said comparing is independent of the order of keyword prefixes in keyword strings.

164. (Currently Amended) An apparatus for incremental keyword search on a wireless user device, the apparatus comprising:

means for receiving from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string;

means for receiving a hierarchy, elements of the said hierarchy comprising intermediate nodes and leaf nodes representing one or more keyword strings comprising one or more words comprising one or more symbols;

means for creating hierarchy bit vectors corresponding to the said one or more keyword strings in the said hierarchy;

means for searching the said hierarchy bit vectors for a match with the said input keyword string, the said means for searching comprising, for each of the said elements of the said hierarchy;

means for saving the said input keyword string;

means for applying a logical “AND” operation to the bit vector of the element and a bit vector based at least in part on the said input keyword string, the said applying producing a result;

means for if the said result is nonzero, removing from the said input keyword string any words in the said input keyword string that are prefixes of words in the element;

means for if the said input keyword string is empty, adding the said element to a list of matched items; and

means for restoring the said input keyword string; and

means for rendering the said list of matched items.

165. (Currently Amended) An apparatus for creating a keyword string database on a wireless user device, the apparatus comprising:

a memory for storing the said keyword string database; and

a processor configured to:

determine one or more candidate keyword strings to store in the said database;

for each of the said one or more candidate keyword strings, create a single bit vector based at least in part on the said each of the said one or more candidate keyword strings, the said bit vectors for use in comparing an input bit vector with the said bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings, the said input keyword string provided by a user of the said wireless user device; and

store ~~the said~~ one or more bit vectors and a reference to ~~the said~~ one or more candidate keyword strings in ~~the said~~ database.

166. (Currently Amended) The apparatus of claim 165 wherein ~~the said~~ bit vector further comprises at least one bit that represents a non-alphanumeric symbol.
167. (Currently Amended) The apparatus of claim 166 wherein ~~the said~~ non-alphanumeric symbol indicates an email address.
168. (Currently Amended) The apparatus of claim 166 wherein ~~the said~~ non-alphanumeric symbol indicates a mobile number.
169. (Currently Amended) The apparatus of claim 166 wherein ~~the said~~ non-alphanumeric symbol indicates a wired number.
170. (Currently Amended) The apparatus of claim 166 wherein ~~the said~~ non-alphanumeric symbol indicates a paper-mail address.
171. (Currently Amended) The apparatus of claim 166 wherein ~~the said~~ non-alphanumeric symbol indicates a cost ranking.
172. (Currently Amended) The apparatus of claim 166 wherein ~~the said~~ non-alphanumeric symbol indicates a quality ranking.

173. (Currently Amended) The apparatus of claim 166 wherein ~~the said~~ non-alphanumeric symbol indicates a cuisine.
174. (Currently Amended) An apparatus for incremental keyword search on a wireless user device, the apparatus comprising:
- a user interface configured to receive from a user of ~~the said~~ wireless user device an input keyword string comprising one or more words comprising one or more symbols, ~~the said~~ user interface further configured to present any matching keyword strings; and
 - a search engine in communication with ~~the said~~ user interface and configured to:
 - create a single bit vector based at least in part on ~~the said~~ input keyword string;
 - compare ~~the said~~ bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors; and
 - apply a conventional keyword matching algorithm to ~~the said~~ at least one candidate keyword string represented by ~~the said~~ set of matching bit vectors.
175. (Currently Amended) The apparatus of claim 174 wherein ~~the said~~ apparatus is further configured to preempt ~~the said~~ search engine after a predetermined amount of time.
176. (Currently Amended) The apparatus of claim 175 wherein ~~the said~~ predetermined amount of time is two seconds.
177. (Currently Amended) The apparatus of claim 174 wherein ~~the said~~ apparatus is further configured to compare ~~the said~~ bit vector independent of the order of keyword prefixes in keyword strings.

178. (Currently Amended) An apparatus for creating a keyword string database on a wireless user device, the apparatus comprising:

a memory for storing the said keyword string database; and

a processor configured to:

determine one or more candidate keyword strings to store in the said database;

for each of the said one or more candidate keyword strings, create a single bit vector based

at least in part on the said each of the said one or more candidate keyword strings, the

said bit vector having a bit position for each symbol in an alphabet and having bits set

for bit positions corresponding to at least one symbol representing the first symbol of a

word in the said each of the said one or more candidate keyword strings, the said bit

vectors for use in comparing an input bit vector with the said bit vectors to indicate

whether an input keyword string represented by the said input bit vector matches the

said one or more candidate keyword strings; and

store the said one or more bit vectors and a reference to the said one or more candidate

keyword strings in the said database.

179. (Currently Amended) An apparatus for incremental keyword search on a wireless user device, the apparatus comprising:

a user interface configured to receive from a user of the said wireless user device an input

keyword string comprising one or more words comprising one or more symbols, the

said user interface further configured to present any matching keyword strings; and

a search engine in communication with the said user interface and configured to:

create a single bit vector based at least in part on the said input keyword string, the said bit

vector having a bit position for each symbol in an alphabet and having bits set for

positions corresponding to at least one symbol representing the first symbol of a word in the said input keyword string;

compare the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors; and

apply a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors.

180. (Currently Amended) The apparatus of claim 179 wherein the said apparatus is further configured to preempt the said search engine after a predetermined amount of time.

181. (Currently Amended) The apparatus of claim 180 wherein the said predetermined amount of time is two seconds.

182. (Currently Amended) The apparatus of claim 179 wherein the said apparatus is further configured to compare the said bit vector independent of the order of keyword prefixes in keyword strings.

183. (Currently Amended) An apparatus for comparing keyword strings on a wireless user device, the apparatus comprising:

a memory for storing at least one relative frequency of use for at least one symbol in a language; and

a processor configured to:

determine a relative frequency of use for at least one symbol in a language;

assign a statistical weighting to the said at least one symbol based at least in part on a relative frequency of use of the said at least one symbol;

assign each of the said at least one symbol to one of a plurality of groups; and
compare a first keyword string and a second keyword string based at least in part on whether
at least one symbol of the said first keyword string is assigned to the same group as at
least one corresponding symbol of the said second keyword string.

184. (Currently Amended) The apparatus of claim 183 wherein the said processor is further
configured to assign each of the said at least one symbol to one of a plurality of groups so as
to minimize the difference between the sums of statistical weightings for symbols comprising
each group in the said plurality of groups.

185. (Currently Amended) The apparatus of claim 183 wherein the said relative frequency of
use comprises the relative frequency of use of symbols in the first character of words in the
said language.

186. (Currently Amended) An apparatus for creating a keyword string database on a wireless
user device, the apparatus comprising:

a memory for storing the said keyword string database; and

a processor configured to:

determine one or more candidate keyword strings to store in the said database;

create one or more bit vectors based at least in part on the said one or more candidate

keyword strings, each bit of the said one or more bit vectors corresponding to one or
more symbols in an alphabet, bits having a bit position corresponding to the first

symbol of a word in the said one or more candidate keyword strings being set, the said

one or more bit vectors for use in comparing an input bit vector with the said one or

more bit vectors to indicate whether an input keyword string represented by the said input bit vector matches the said one or more candidate keyword strings; and store the said one or more bit vectors and a reference to the said one or more candidate keyword strings in the said database.

187. (Currently Amended) An apparatus for incremental keyword search on a wireless user device, the apparatus comprising:

a user interface configured to receive from a user of the said wireless user device an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string, the said user interface further configured to present any matching keyword strings; and

a search engine in communication with the said user interface and configured to:

create a single bit vector based at least in part on the said input keyword string, each bit corresponding to one or more symbols in an alphabet, bits having a bit position corresponding to the said one or more symbols being set;

compare the said bit vector with one or more other bit vectors representing at least one candidate keyword string to create a set of matching bit vectors; and

apply a conventional keyword matching algorithm to the said at least one candidate keyword string represented by the said set of matching bit vectors.

188. (Currently Amended) The apparatus of claim 187 wherein the said apparatus is further configured to preempt the said search engine after a predetermined amount of time.

189. (Currently Amended) The apparatus of claim 188 wherein the said predetermined amount of time is two seconds.

190. (Currently Amended) The apparatus of claim 187 wherein the said apparatus is further configured to compare the said bit vector independent of the order of keyword prefixes in keyword strings.

191. (Currently Amended) An apparatus for creating a keyword string database on a wireless user device, the apparatus comprising:

a memory for storing the said keyword string database; and

a processor configured to:

determine one or more candidate keyword strings to store in the said database;

create one or more bit vectors based at least in part on the said one or more candidate

keyword strings, each bit of the said one or bit vector corresponding to one or more

symbols in an alphabet, bits having a bit position corresponding to a symbol of a prefix

of a word in the said one or more candidate keyword strings being set, the said one or

more bit vectors for use in comparing an input bit vector with the said one or more bit

vectors to indicate whether an input keyword string represented by the said input bit

vector matches the said one or more candidate keyword strings; and

store the said one or more bit vectors and a reference to the said one or more candidate

keyword strings in the said database.

192. (Currently Amended) An apparatus for incremental keyword search on a wireless user device, the apparatus comprising:

a user interface configured to receive from a user of the said wireless user device an input

keyword string comprising one or more words comprising one or more symbols, the

said user interface further configured to present any matching keyword strings; and

a search engine in communication with the said user interface and configured to:
create a bit vector based at least in part on the said input keyword string, each bit
corresponding to one or more symbols in an alphabet, bits having a bit position
corresponding to a prefix of a word in the said one or more symbols being set;
compare the said bit vector with one or more other bit vectors representing at least one
candidate keyword string to create a set of matching bit vectors; and
apply a conventional keyword matching algorithm to the said at least one candidate keyword
string represented by the said set of matching bit vectors.

193. (Currently Amended) The apparatus of claim 192 wherein the said apparatus is further
configured to preempt the said search engine after a predetermined amount of time.

194. (Currently Amended) The apparatus of claim 193 wherein the said predetermined
amount of time is two seconds.

195. (Currently Amended) The apparatus of claim 192 wherein the said apparatus is further
configured to compare the said bit vector independent of the order of keyword prefixes in
keyword strings.

196. (Currently Amended) An apparatus for incremental keyword search on a wireless user
device, the apparatus comprising:

a user interface configured to receive from a user of the said wireless user device an input
keyword string comprising one or more words comprising one or more symbols, the
said user interface further configured to present any matching keyword strings; and
a search engine in communication with the said user interface and configured to:

receive an input keyword string comprising one or more words comprising one or more symbols, each symbol representing the first symbol of a word in a search string;
receive a hierarchy, elements of the said hierarchy comprising intermediate nodes and leaf nodes representing one or more keyword strings comprising one or more words comprising one or more symbols;
create hierarchy bit vectors corresponding to the said one or more keyword strings in the said hierarchy;
search the said hierarchy bit vectors for a match with the said input keyword string, the said apparatus further configured to, for each of the said elements of the said hierarchy:
save the said input keyword string;
apply a logical “AND” operation to the bit vector of the element and a bit vector based at least in part on the said input keyword string, the said applying producing a result;
if the said result is nonzero, remove from the said input keyword string any words in the said input keyword string that are prefixes of words in the element;
if the said input keyword string is empty, add the said element to a list of matched items; and
restoring the said input keyword string; and
render the said list of matched items; and
apply a conventional keyword matching algorithm to the said at least one keyword string represented by one or more element in the said list of matched items.

197. (Currently Amended) A method for comparing keyword strings on a wireless user device, the method comprising:
assigning each of at least one symbol in a language to one of a plurality of groups; and

comparing a first keyword string and a second keyword string based at least in part on whether at least one symbol of ~~the said~~ first keyword string is assigned to the same group as at least one corresponding symbol of ~~the said~~ second keyword string; and presenting a result of the comparing to a user of the wireless user device.

198. (Currently Amended) The method of claim 197 wherein ~~the said~~ plurality of groups corresponds with a telephone keyboard symbol grouping.

199. (Currently Amended) A method for comparing keyword strings on a wireless user device, the method comprising:
step for assigning each of at least one symbol in a language to one of a plurality of groups;
~~and~~
step for comparing a first keyword string and a second keyword string based at least in part on whether at least one symbol of ~~the said~~ first keyword string is assigned to the same group as at least one corresponding symbol of ~~the said~~ second keyword string; and step for presenting a result of the comparing to a user of the wireless user device.

200. (Currently Amended) The method of claim 199 wherein ~~the said~~ plurality of groups corresponds with a telephone keyboard symbol grouping.

201. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for comparing keyword strings on a wireless user device, the method comprising:
assigning each of at least one symbol in a language to one of a plurality of groups; and

comparing a first keyword string and a second keyword string based at least in part on whether at least one symbol of ~~the said~~ first keyword string is assigned to the same group as at least one corresponding symbol of ~~the said~~ second keyword string.

202. (Currently Amended) The program storage device of claim 201 wherein ~~the said~~ plurality of groups corresponds with a telephone keyboard symbol grouping.

203. (Currently Amended) An apparatus for comparing keyword strings on a wireless user device, the apparatus comprising:
means for assigning each of at least one symbol in a language to one of a plurality of groups;
and
means for comparing a first keyword string and a second keyword string based at least in part on whether at least one symbol of ~~the said~~ first keyword string is assigned to the same group as at least one corresponding symbol of ~~the said~~ second keyword string.

204. (Currently Amended) The apparatus of claim 203 wherein ~~the said~~ plurality of groups corresponds with a telephone keyboard symbol grouping.

205. (Currently Amended) An apparatus for comparing keyword strings on a wireless user device, the apparatus comprising:
a memory for storing ~~the said~~ keyword strings; and
a processor configured to:
assign each of at least one symbol in a language to one of a plurality of groups; and

compare a first keyword string and a second keyword string based at least in part on whether at least one symbol of ~~the said~~ first keyword string is assigned to the same group as at least one corresponding symbol of ~~the said~~ second keyword string.

206. (Currently Amended) The apparatus of claim 205 wherein ~~the said~~ plurality of groups corresponds with a telephone keyboard symbol grouping.